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Draft Neutrino Group Working Plan

(Not yet discussed by the working group)

Membership

Gary Feldman (chair)
Steve Geer
Debbie Harris
Peter Myers
Sergei Nagaitsev
Angela Olinto
Adam Para

Overall Goal

Plan a Fermilab neutrino program that is capable of providing definitive measurements of the currently unmeasured neutrino oscillation parameters, θ_{13}, sign(Δm_{13}^2), and δ, assuming that θ_{13} is of moderate size, $\theta_{13} > 2^o$.

Specific Questions

(1) What is the capability of the NuMI beam line with increased proton intensity on the proposed off-axis detector at a Minnesota or Canadian site?
(2) What additional capability would be added by a second off-axis detector sited to study the second oscillation maximum?
(3) What would be the capability of a new Fermilab conventional neutrino beamline to a longer baseline detector? Should such a detector be sited on- or off-axis?
(4) If $\theta_{13} < 2^o$, should Fermilab consider a muon-ring neutrino factory, and if so, what would be its capabilities?

Note

(1) The overall goal assumes that a program that is sufficiently powerful enough to measure the currently unmeasured neutrino oscillation parameters will also provide a wealth of other oscillation and non-oscillation physics. The word "capability" in the above questions should be interpreted to include this.